

**Appl. No.** : **09/850,263**  
**Filed** : **May 7, 2001**

### REMARKS

This Amendment is responsive to the Final Office Action mailed on August 26, 2004 ("the Office Action"), and is accompanied by a Request for Continued Examination. Applicants are also filing a Supplemental Information Disclosure Statement with this Amendment.

#### I. Substance of Telephone Interview

Applicants' representative would like to thank Examiner Champagne for the courtesy he extended during the telephone interview conducted on October 1, 2004. During the interview, Applicants' representative proposed amendments to Claims 61 and 83 to provide additional details regarding the recited "item selection histories," and proposed revising Claim 61 by changing "storing selected data values of the plurality of data values" to "storing a selected subset of the plurality of data values."

Applicants' representative also pointed out examples of claim limitations that are not disclosed in Whiteis and Tagawa, including claim limitations recited in Claims 61, 65, 66, 70, 81, 83, and 97.

No exhibits were discussed during the interview.

#### II. Summary of the Amendments

By the foregoing Amendment, Applicants have amended Claims 61 and 83 as proposed during the interview. The language "storing a selected subset of the plurality of data values," as now recited in Claim 61, is supported by the originally-filed specification at, e.g., page 13, lines 24-28; and page 19, line 27 to page 20, line 8.

In addition, Applicants have amended Claims 63, 66, 77, 97, 98 and 102; have canceled Claims 82 and 87-96; and have added new Claims 104-127. No new matter has been added.

#### III. Interpretation of "item selection histories"

In the Office Action, the Examiner took the position that the phrase "item selection histories," as recited in independent Claims 61 and 83, covers the LINKS table 301 disclosed in Whiteis. By the foregoing amendment, both claims have been amended by adding the following language: "each item selection history corresponding to, and identifying items selected by, a particular user." As discussed during the interview, the LINKS table of Whiteis does not fall within the scope of this added language.

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New dependent Claims 111-113 further define the item selection histories recited in Claim 61. For example, Claim 113 states that “each item selection history comprises data indicative of a date that an item was selected by a corresponding user.” The limitations added by these three claims provide additional distinctions over the LINKS table of Whiteis.

The Examiner also commented in the Office Action that the phrase “item selection histories” is not clearly defined in the specification. As discussed during the interview, the phrase encompasses histories of items selected for purchase, histories of items selected for viewing, and histories of items selected to add to a shopping cart. See, e.g., present application at page 13, lines 1-8, and dependent Claims 70 and 71. This meaning is consistent with the language added to Claims 61 and 83 by this Amendment.

IV. Discussion of Rejected Independent Claims

Applicants respectfully submit that Whiteis and Tagawa do not disclose or suggest all of the limitations of independent Claims 61, 83 and 97, and that the rejections of these claims are therefore improper. Examples of claim limitations that are not disclosed or suggested by Whiteis and Tagawa are set forth below.

Claim 61

With respect to independent Claim 61, Whiteis and Tagawa do not disclose or suggest “collectively analyzing at least the item selection histories of the plurality of users, as collected over a period of time, *in an off-line processing mode* to generate a plurality of data values that represent degrees to which specific items in the electronic catalog are related” (emphasis added). In connection with this claim language, Whiteis discloses an approach in which a co-occurrence analysis of a user’s input list of items is performed when the user accesses the system to obtain recommendations. See, e.g., col. 3, lines 12-23, and col. 4 of Whiteis. This analysis is not performed “in an off-line processing mode” as recited by the claim.

As discussed during the interview, an important benefit of analyzing the item selection histories in an off-line processing mode is that significantly less processing is needed at the time the personalized recommendations are generated. This benefit is described, e.g., at page 4, lines 22-26 of the present application:

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An important aspect of the service is that the relatively computation-intensive task of correlating item interests is performed off-line, and the results of this task (item-to-item mappings) stored in a mapping structure for subsequent look-up. This enables the personal recommendations to be generated rapidly and efficiently (such as in real-time in response to a request by the user), without sacrificing breadth of analysis.

Whiteis's system does not provide this benefit, and is not as well suited, e.g., for generating real-time or near-real-time recommendations for large numbers of concurrent users.

Whiteis and Tagawa also fail to disclose or suggest "storing a selected subset of the plurality of data values in a mapping structure that maps items to related items." In this regard, Whiteis maintains a LINKS table 301 that apparently stores a separate table entry, including a link weight value, for every two items that have co-occurred in an input list of at least one user. As a result, if Whiteis's approach were used in a system having a large number of users and a large number of selectable items, the LINKS table would likely include a prohibitively large number of table entries, most of which merely represent very weak associations between items.

For at least these reasons, Claim 61, and corresponding dependent Claims 62-81 and 111-113, are patentably distinct from Whiteis and Tagawa.

#### Claim 83

With respect to independent Claim 83, Whiteis and Tagawa do not disclose or suggest "collectively and programmatically analyzing the item selection histories of the plurality of users to generate a data value that represents a degree to which a first item and a second item in the catalog are related, wherein the data value is dependent upon at least (a) a number of users that selected both the first item and the second item, (b) a total number of users that selected the first item, and (c) a total number of users that selected the second item."

In addition, Whiteis and Tagawa do not disclose or suggest "using the data value to determine whether the first item should be mapped to the second item in a mapping structure that maps items to related items." As discussed above, Whiteis's LINKS table 301 includes an entry, including a link weight value, for each pair of items that has appeared in an input list of a user. Nothing in Whiteis suggests analyzing the link weights, or any other data value, to evaluate whether one item should be mapped to another item in the LINKS table 301.

For at least these reasons, Claim 83, and corresponding dependent Claims 84-86, are patentably distinct from Whiteis and Tagawa.

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### Claim 97

With respect to independent Claim 97, Whiteis and Tagawa do not disclose or suggest “identifying a set of additional items to recommend to the target user according to a selection algorithm in which a candidate item is considered for inclusion in the set based at least in-part upon a degree to which the candidate item is related to each of [a] plurality of items that are currently selected by the target user to obtain.” As discussed during the interview, the Office Action did not specifically address the limitations of Claim 97.

Because Whiteis and Tagawa do not disclose or suggest all of the limitations of Claim 97, the rejections of Claims 97-103 are improper.

### V. Discussion of Rejected Dependent Claims

Additional distinctions over Whiteis and Tagawa are recited throughout the dependent claims. As one example, Claim 81 recites that the personalized recommendations “are generated for and provided to each of the plurality of users without updating the mapping structure.” This is in contrast to Whiteis, which updates its LINKS table 301 each time a user accesses the system to obtain recommendations. Because Whiteis updates the table (in addition to performing a co-occurrence analysis of the user’s input list) during each use, Whiteis’s system is not as well suited for generating recommendations for large numbers of concurrent users.

As another example, Claim 65 recites “replicating the mapping structure, together with associated executable code used to generate personalized recommendations, across multiple machines of said server system to improve real time performance.” Whiteis does not disclose or suggest this feature. Indeed, such a feature would be relatively complex and inefficient to implement in Whiteis’s system since the LINKS table is updated with each use of the system.

As yet another example, Claim 78 requires that the personalized recommendations for a target user be generated “without requiring the target user to explicitly rate items or to create an input list of items.” In contrast, Whiteis requires the target user to initially create an input list of items.

### VI. Conclusion

For at least the foregoing reasons, Applicants submit that the claims are patentably distinct from Whiteis and Tagawa, and request that the obviousness rejections be withdrawn.

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If any issues remain that can potentially be resolved by telephone, the Examiner is invited to call the undersigned representative at the number listed below.

Respectfully submitted,

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